

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, or claims in the application:

Listing of Claims:

1. (Currently amended) A lithographic printing form comprising
 ~~[[-]]~~ a a substrate, ~~preferably a metal plate,~~ and
 ~~[[-]]~~ b an ink comprising a polymer or copolymer with acid groups,
 wherein at least one of said groups has been converted to the corresponding amide.
2. (Currently amended) ~~[[A]]~~ The lithographic printing form ~~according to~~ of claim 1, ~~characterized in that that~~ wherein the amide is made from an amine selected from the group consisting of ammonia, an alkyl amine ~~or~~ and a dialkyl amine.
3. (Currently amended) ~~[[A]]~~ The lithographic printing form ~~according to~~ of claim 1 ~~or 2,~~ ~~characterized in that~~ wherein the ink is dried ink or baked ink.
4. (Currently amended) ~~[[A]]~~ The lithographic printing form ~~according to any one of claims claim 1 to 3,~~ ~~characterized in that~~ wherein the polymer or copolymer is composed of ~~at least one of the~~ monomers selected from the group consisting of ~~[[:]]~~ acrylic acid, methacrylic acid, maleic acid, maleic acid anhydride, fumaric acid, fumaric acid anhydride, styrene, sulfonate styrene, and vinyl.
5. (Currently amended) ~~[[A]]~~ The lithographic printing form ~~according to any one of claims claim 1 to 4,~~ ~~characterized in that~~ wherein the polymer or copolymer has an average molar mass ~~above~~ greater than 250 g/mole, ~~preferably above 10 000 g/mole and most preferred above 14000 g/mole.~~
6. (Currently amended) ~~[[A]]~~ The lithographic printing form ~~according to any one of claims claim 1 to 5,~~ ~~characterized in that~~ wherein the ink further comprises at least one ~~of the following~~ ~~components:~~ component selected from the group consisting of
 - a) from 0.1% to 20 % by weight of a surfactant,

- b) from 0.1% to 20 % by weight of a ~~colouring~~ coloring agent,
- c) from 0.001 % by weight to saturation of one or more fatty acids, oils or alcohols,
- d) from 0.001% to 10 % by weight of at least one transition metal or transition metal complex ~~from the group of transition metals~~,
- e) from 0.1% to 80 % by weight of a surface tension/viscosity modifying agent,
- f) from 0.01% to 20 % by weight of a ~~hydrofile~~ hydrophilic additive, and
- g) from 5% to 90 % by weight of water.

7. (Currently amended) [[A]] The lithographic printing form ~~according to~~ of claim 6, ~~characterized in that~~ wherein said transition metal or transition metal complex is selected from the group consisting of chromium, titanium, iron, molybdenum, manganese, cobalt, zirconium, vanadium and complexes thereof.

8. (Currently amended) [[A]] The lithographic printing form ~~according to any one of claims~~ claim 1 ~~to 7, characterized in that~~ wherein the substrate is an ~~aluminium~~ aluminum plate.

9. (Currently amended) A method of preparing a lithographic printing form ~~according to any one of claims 1 to 8~~ comprising the steps of:

[[-]] a) treating a substrate, ~~preferably a metal plate~~, with an ink comprising a polymer or copolymer with acid groups wherein at least one of said acid groups has been converted to the corresponding amide; and

[[-]] b) drying the substrate, ~~and~~

[[-]] ~~optionally heating the substrate.~~

10. (Currently amended) [[A]] The method of ~~preparing a lithographic printing form according to~~ claim 9, ~~characterized in that~~ that wherein the amide is made from an amine selected from the group consisting of ammonia, an alkyl amine or and a dialkyl amine.

11. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to claim 9 or 10, characterized in that~~ wherein the polymer or copolymer is composed of at least one of the monomers ~~selected from the group consisting of~~ acrylic acid, methacrylic acid, maleic acid, maleic acid anhydride, fumaric acid, fumaric acid anhydride, styrene, sulfonate styrene, and vinyl.

12. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to any one of claims claim 9 to 11, characterized in that~~ wherein the polymer or copolymer has an average molar mass above greater than 250 g/mole, ~~preferably above 10 000 g/mole and most preferred above 14000 g/mole.~~

13. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to any one of claims claim 9 to 13, characterized in that~~ wherein the ink further comprises at least one of the following components: component selected from the group consisting of

- a) from 0.1% to 20 % by weight of a surfactant,
- b) from 0.1% to 20 % by weight of a ~~colouring~~ coloring agent,
- c) from 0.001 % by weight to saturation of one or more fatty acids, oils or alcohols,
- d) from 0.001% to 10 % by weight of at least one transition metal or transition metal complex ~~from the group of transition metals,~~
- e) from 0.1% to 80 % by weight of a surface tension/viscosity modifying agent,
- f) from 0.01% to 20 % by weight of ~~hydrofilie~~ a hydrophilic additive, and
- g) from 5% to 90 % by weight of water.

14. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to claim 13, characterized in that~~ wherein said transition metal or transition metal complex is selected from the group consisting of chromium, titanium, iron, molybdenum, manganese, cobalt, zirconium, vanadium and complexes thereof.

15. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to any one of claims claim 9 to 14~~ 37, ~~characterized in that~~ wherein the substrate is heated to above

150 °C preferably to between 170 °C and 220 °C and most preferably to between 190 °C and 210 °C.

16. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to any one of claims claim 9 to 15, characterized in that wherein~~ the substrate is an aluminum aluminium plate.

17. (Currently amended) [[A]] ~~The method of preparing a lithographic printing form according to any one of claims claim 9 to 16 characterized in that wherein~~ the ink is dried onto or baked into the substrate.

18. (Currently amended) A process for producing an ink for use in the method ~~according to any one of claims of claim 9 to 17~~ comprising the steps of:

[[g]]] a) treating a polymer or a copolymer having acid groups with an amine, and

[[h]]] b) adjusting the pH to above 7[[,]]

i) ~~optionally adding fatty acid, oil or wax,~~

j) ~~optionally adding one or more transition metals or metal complexes,~~

k) ~~optionally adding colouring agent l) optionally heating the ink.~~

19. (Currently amended) [[A]] ~~The process according to~~ of claim 18, characterized in that wherein the amine is selected from the group consisting of ammonia, an alkyl amine ~~or~~ and a dialkyl amine.

20. (Currently amended) [[A]] ~~The process according to~~ of claim 18 or 19, characterized in that ~~further base is added in order to keep~~ wherein the pH is adjusted to between 7.5 and 8.5

21. (Currently amended) [[A]] ~~The process according to any one of claims of claim 18 to 20, characterized in that wherein~~ the polymer or copolymer is composed of ~~at least one of the~~ monomers[[:]] selected from the group consisting of acrylic acid, methacrylic acid, maleic acid, maleic acid anhydride, fumaric acid, fumaric acid anhydride, styrene, sulfonate styrene, and vinyl.

22. (Currently amended) [[A]] ~~The process according to any one of claims of claim 45 18 to 21,~~
~~characterized in that wherein~~ the mixture is heated to between 65 °C and 180 °C, ~~preferably~~
~~between 70 °C and 150 °C, and optimally about 80 °C.~~

23. (Currently amended) [[A]] ~~The process according to any one of claims 18 to 22 42,~~
~~characterized in that wherein~~ the fatty acid is ~~chosen~~ selected from the group consisting of lauric
acid, myristic acid, palmitic acid, stearic acid, arachidic acid, palmitoleic acid, oleic acid, linoleic
acid, linolenic acids, lanoline and lanolate-alcohols.

24. (Currently amended) [[A]] ~~The process according to any one of claims 18 to of claim 23,~~
~~characterized in that wherein~~ the fatty acid is extracted from lanolin or ~~lanolin~~ lanolate-alcohols.

25. (Currently amended) [[A]] ~~The process according to any one of claims 18 to 24 claim 43,~~
~~characterized in that wherein~~ said transition metal or transition metal complex is selected from the
group consisting of chromium, titanium, iron, molybdenum, manganese, cobalt, zirconium ~~or~~ and
vanadium.

26. (Currently amended) [[A]] ~~The process according to any one of claims 18 to 24 of claim 44,~~
~~characterized in that colour wherein~~ the coloring agent is a dye ~~preferably chosen~~ selected from the
group consisting of Rhodamine B, Gallocyanine, Methyl green, Sudan IV, Erythrosine B and
Crystal ~~Violet~~ Violet.

27. (Currently amended) An aqueous ink comprising

a) a polymer or copolymer with acid groups, wherein at least one of said acid groups has
been converted to the corresponding ~~amid~~ amide, and

b) ~~characterized in that the ink further comprises~~ from 0.001 % by weight to saturation of
one or more fatty acids, ~~acids and optionally one or more of the following ingredients:~~ from 0.1 to
20 % by weight of a surfactant, ~~from 0.1 to 20 % by weight of a colouring agent,~~ from 0.001 to

~~10 % by weight of at least one metal or metal complex from the group of transition metals, from 0.1 to 80 % by weight of a surface tension/viscosity modifying agent, from 0.01 to 20 % by weight of hydrophilic additive~~

28. (Currently amended) [[An]] The aqueous ink according to of claim 27, characterized in that wherein said fatty acid is extracted from lanolin or derived from hydroxyleate lanolin ~~preferred in the form of lanoline oil, lanoline acid or lanolate alcohols.~~

29. (Currently amended) [[An]] The aqueous ink according to of claim 27 or 28 48 characterized in that wherein said transition metal or transition metal complex is selected from the group consisting of chromium, titanium, iron, molybdenum, manganese, cobalt, zirconium and vanadium.

30. (Currently amended) [[An]] The aqueous ink according to ~~any one of claims 27 to 29~~ claim 48, characterized in that wherein said ~~colouring~~ coloring agent is a dye ~~preferably chosen~~ selected from the group consisting of Rhodamine B, Gallocyanine, Methyl green, Sudan IV, Erythrosine B and Crystal Violet.

31. (Currently amended) [[An]] The aqueous ink according to ~~any one of claims 27 to 30~~ claim 48, characterized in that wherein the additive is ~~chosen~~ selected from the group consisting of: ethylene glycol monomethyl ether, ethylene glycol dimethyl ether, ethylene glycol monoethyl ether, ethylene glycol diethyl ether, ethylene glycol mono-n-propyl ether, ethylene glycol monoisopropyl ether, ethylene glycol mono-n-butyl ether, ethylene glycol mono-sec-butyl ether, ethylene glycol monoisobutyl ether, ethylene glycol mono-tert-butyl ether, ethylene glycol mono-n-amyl ether, ethylene glycol mono-n-hexyl ether, propylene glycol monomethyl ether, propylene glycol dimethyl ether, propylene glycol monoethyl ether, propylene glycol diethyl ether, propylene glycol mono-n-propyl ether, propylene glycol monoisopropyl ether, propylene glycol mono-n-butyl ether, propylene glycol mono-sec-butyl ether, propylene glycol monoisobutyl ether, propylene glycol mono-tert-butyl ether, diethylene glycol monomethyl ether, diethylene glycol dimethyl ether, diethylene glycol monoethyl ether, diethylene glycol diethyl ether, diethylene glycol mono-n-propyl

ether, diethylene glycol mono-~~iso-propyl~~isopropyl ether, diethylene glycol mono-n-butyl ether, diethylene glycol mono-sec-butyl ether, diethylene glycol monoisobutyl ether, diethylene glycol mono-tert-butyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, dipropylene glycol mono-n-propyl ether, dipropylene glycol mono-n-butyl ether, polyethylene glycol monopropyl ether, polyethylene glycol monobutyl ether, ethylene glycol, propylene glycol, and a C₁-C₆ alcohol. ~~any alcohol with 1 to 6 carbon atoms e. g. methanol, ethanol, n-propanol, 2-propanol etc.~~

32. (Currently amended) ~~[[An]]~~ The aqueous ink according to any one of claims 27 to 31 of claim 48, characterized in that it wherein said aqueous ink has a surface tension between 0.01 N/m and 0.10 N/m, ~~preferably between 0.02 and 0.06 N/m and most preferably between 0.03 and 0.05 N/m.~~

33. (New) The lithographic printing form of claim 1 wherein the substrate is a metal plate.

34. (New) The lithographic printing form of claim 5, wherein the polymer or copolymer has an average molar mass greater than 10,000 g/mole.

35. (New) The lithographic printing form of claim 34, wherein the polymer or copolymer has an average molar mass greater than 14,000 g/mole.

36. (New) The method of claim 9, wherein the substrate is a metal plate.

37. (New) The method of claim 9, further comprising after step b) the step of c) heating the substrate.

38. (New) The method of claim 12, wherein the polymer or copolymer has an average molar mass greater than 10,000 g/mole.

39. (New) The method of claim 38, wherein the polymer or copolymer has an average molar mass greater than 14,000 g/mole.
40. (New) The method of claim 15, wherein the substrate is heated to a temperature between 170 °C and 220 °C.
41. (New) The method of claim 40, wherein the substrate is heated to a temperature between 190 °C and 210 °C.
42. (New) The method of claim 18, further comprising after step b) the step of c) adding fatty acid, oil or wax.
43. (New) The method of claim 18, further comprising after step b) the step of d) adding at least one transition metal or transition metal complex.
44. (New) The method of claim 18, further comprising after step b) the step of e) adding a coloring agent.
45. (New) The method of claim 18, further comprising after step b) the step of f) heating the ink.
46. (New) The process of claim 22, wherein the ink is heated to a temperature between 70 °C and 150 °C.
47. (New) The process of claim 46, wherein the ink is heated to a temperature of 80 °C.
48. (New) The aqueous ink of claim 27, further comprising at least one component selected from the group consisting of:
- c) from 0.1% to 20% by weight of a surfactant;

- d) from 0.1% to 20% by weight of a coloring agent;
- e) from 0.001% to 10% by weight of at least one transition metal or transition metal complex;
- f) from 0.1% to 80% by weight of a surface tension/viscosity modifying agent; and
- g) from 0.01% to 20% by weight of a hydrophilic additive.

49. (New) The aqueous ink of claim 28 wherein the hydroxyleate lanolin is selected from the group consisting of lanoline oil, lanoline acid and lanolate alcohols.

50. (New) The aqueous ink of claim 32, wherein said aqueous ink has a surface tension between 0.02 N/m and 0.06 N/m.

51. (New) The aqueous ink of claim 50, wherein said aqueous ink has a surface tension between 0.03 N/m and 0.05 N/m.